

## CLAIMS

What is claimed is:

1. A method for determining an optimal bid for an item in a market, said method comprising:

- a) selecting characteristics of said market;
- b) selecting a bidding model;
- c) estimating a structure of said market;
- d) determining a bid function; and
- 10 e) determining said optimal bid.

2. The method as recited in Claim 1, wherein said step a) comprises: receiving a first user input, wherein said first user input comprises information identifying an item to be bid on;

15 accessing a database;

retrieving historical bids data from said database;

retrieving auction characteristics data from said database, wherein said auction characteristics data comprise information relating to historical auctions of items similar to said item to be bid on;

20 outputting said historical bids data; and

outputting said auction characteristics data.

3. The method as recited in Claim 1, wherein said step b) comprises:  
receiving auction characteristics data;  
accessing a database;  
retrieving from said database said bidding model, wherein said bidding  
model is selected based on a corresponding relevance of said auction  
characteristics data; and  
outputting said bidding model.

4. The method as recited in Claim 1, wherein said step c) comprises:  
receiving said bidding model;  
receiving historical bids data;  
expressing unobservable variables in terms of observable bids, wherein  
said unobservable variables are expressed in terms of observable bids by  
inverting said bidding model;  
transforming said historical bids data to a sample of inverted bids,  
wherein said historical bids data are transformed by inverting said bidding  
model;  
estimating a structure of said market, wherein said sample of inverted  
bids receives application of statistical density estimation techniques to obtain  
said structure; and  
outputting said structure.

5. The method as recited in Claim 1, wherein said step d) comprises:  
receiving a second user input,  
receiving a structure;  
generating a bid function, wherein said bid function is based on said  
5 structure and said second user input; and  
outputting said bid function.

6. The method as recited in Claim 5, wherein said second user input  
comprises:

10 an auction format;  
a valuation of said item; and  
an expected number of rival bidders.

15 7. The method as recited in Claim 1, wherein said step e) comprises:  
receiving a third user input, wherein said third user input comprises an  
evaluation criteria;  
receiving said bid function;  
calculating said optimal bid based on said third user input and said bid  
function; and  
20 outputting said optimal bid.

8. A computer system comprising:

a bus;

a memory interconnected with said bus; and

a processor interconnected with said bus, wherein said processor executes a method for determining an optimal bid for an item in a market, said method

5 comprising:

- a) selecting characteristics of said market;
- b) selecting a bidding model;
- c) estimating a structure of said market;
- d) determining a bid function; and
- 10 e) determining said optimal bid.

9. The computer system as recited in Claim 8, wherein said step a)  
comprises:

- receiving a first user input, wherein said first user input comprises
- 15 information identifying an item to be bid on;
- accessing a database;
- retrieving historical bids data from said database;
- retrieving auction characteristics data from said database, wherein said auction characteristics data comprise information relating to historical auctions
- 20 of items similar to said item to be bid on;
- outputting said historical bids data; and
- outputting said auction characteristics data.

10. The computer system as recited in Claim 8, wherein said step b) comprises:

receiving auction characteristics data;

5 accessing a database;

retrieving from said database said bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and

outputting said bidding model.

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11. The computer system as recited in Claim 8, wherein said step c) comprises:

receiving said bidding model;

receiving historical bids data;

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expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bidding model;

transforming said historical bids data to a sample of inverted bids,

wherein said historical bids data are transformed by inverting said bidding

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model;

estimating a structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said structure; and  
outputting said structure.

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12. The computer system as recited in Claim 8, wherein said step d) comprises:

receiving a second user input;

receiving a structure;

10 generating a bid function, wherein said bid function is based on said structure and said second user input; and  
outputting said bid function.

15 13. The method as recited in Claim 12, wherein said second user input comprises:

an auction format;

a valuation of said item; and

an expected number of rival bidders.

20 14. The computer system as recited in Claim 8, wherein said step e) comprises:

receiving a third user input, wherein said third user input comprises an evaluation criteria;

receiving said bid function;

calculating said optimal bid based on said third user input and said bid function; and

5 outputting said optimal bid

15. A computer readable medium for causing a computer system to execute the steps in a method for determining an optimal bid for an item in a market, said

10 method comprising:

- a) selecting characteristics of said market;
- b) selecting a bidding model;
- c) estimating a structure of said market;
- d) determining a bid function; and

15 e) determining said optimal bid.

16. The computer readable medium as recited in Claim 15, wherein said

step a) comprises:

receiving a first user input, wherein said first user input comprises

20 information identifying an item to be bid on;

accessing a database;

retrieving historical bids data from said database;

retrieving auction characteristics data from said database, wherein said auction characteristics data comprise information relating to historical auctions of items similar to said item to be bid on;

outputting said historical bids data; and

outputting said auction characteristics data.

17. The computer readable medium as recited in Claim 15, wherein said step b) comprises:

10 accessing a database;  
retrieving from said database said bidding model, wherein said bidding  
model is selected based on a corresponding relevance of said auction  
characteristics data; and  
outputting said bidding model.

18. The computer readable medium as recited in Claim 15, wherein said step c) comprises:

20 expressing unobservable variables in terms of observable bids, wherein  
said unobservable variables are expressed in terms of observable bids by  
inverting said bidding model;

transforming said historical bids data to a sample of inverted bids, wherein said historical bids data are transformed by inverting said bidding model;

estimating a structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said structure; and

5 outputting said structure.

19. The computer readable medium as recited in Claim 15, wherein said medium comprises:

10 step d) comprises:

receiving a second user input;

receiving a structure;

generating a bid function, wherein said bid function is based on said

structure and said second user input; and

15 outputting said bid function.

outputting said bid function.

20. The method as recited in Claim 19, wherein said second user input comprises:

an auction format;

20 a valuation of said item; and

an expected number of rival bidders.

21. The computer readable medium as recited in Claim 15, wherein said step e) comprises:

receiving a third user input, wherein said third user input comprises an  
tion criteria;

5 receiving said bid function;

calculating said optimal bid based on said third user input and said bid function; and

outputting said optimal bid.

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